Myzininae in Tiphiidae.

T. THORACICA Fabricius. Supplem. Ent. Syst., p. 254, no. 15-16, 1798. To Scoliidae.

T. TRICINCTA Fabricius. Syst. Ent., p. 354, no. 6, 1775. To Scoliidae.

T. TRIFASCIATA Fabricius. Ent. Syst., p. 226, no. 14, 1793. To Scoliidae.

T. TRIPUNCTATA Rossi. Fauna Etrusca., II: 69, no. 831, T. 6. f. 10, 1790. To Myzininae in Tiphiidae.

T. VARIEGATA Fabricius. Mant. Ins., p. 179, no. 6, 1787. To Sphecidae.

New Species of Pacific Coast Coleoptera. (Cleridae, Pyrochroidae, Chrysomelidae).

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FAMILY CLERIDAE.

Bostrichoclerus, new genus.

Large, elongate, very finely and sparsely pilose. Head large; eyes large, transverse, coarsely granular, feebly emarginate in front, and very prominent; antennae long, eleven segmented, scape robust, segments 2-5 about twice as long as broad, feebly clavate and quite glabrous, a few stiff hairs only being evident, segments 6-10 moderately serrate, eleventh fusiform, the free angles of 6-8 densley clothed with fine silky pile and the three following segments completely clothed; a prominent horn, laterally compressed and bifid at apex, arising from in front of each eye and just within the insertion of the antennae giving the latter the appearance of arising from their bases; mandibles robust; maxillary palpi four segmented, labial palpi three segmented, the terminal segments of both sets securiform, that of the labial palpi the larger, and almost an equilateral triangle. Prothorax robust, somewhat longer than broad, broadly constricted at sides in front of middle and narrowed posteriorly, basal margin a complete and well defined bead; coxal cavities rounded and narrowly opened behind. Elytra almost three times as long as prothorax, two and a half times as long as broad, rather finely, densely and irregularly punctured and without striae except for fine sutural striae close to the suture and extending from about the middle almost to the apex. Anterior coxae conical, very narrowly separated, trochantine not visible; middle coxae feebly conical, well separated and with evident trochantine; hind coxae transverse. Abdomen with five free ventral segments. Legs long and moderately slender; tibiae with short terminal spurs; tarsal segments all well developed, flattened dorsally, 1-4 broad yet longer than broad, with the usual membranous appendages and densely papillose beneath, the fifth with sides somewhat papillose; claws simple.

Genotype: *Bostrichoclerus bicornus*, new species.

This rather remarkable genus belongs in the tribe Tillini and because of its coarsely granular eyes, somewhere near *Cymatodera*. It, however, does not look at all like any species of the latter genus but at first sight rather like a large species of the genus *Polycaon* of the family Bostrichidae, also because of its size and general appearance somewhat suggests *Natalis* which is structurally quite removed. Its distinctive peculiarities are the prominent frontal horns, the type of antennae and the elytra without discal striae.

Bostrichoclerus bicornus, new species.

Rather large, dark brown and somewhat shining. Head flattened in front, rather densely punctured above, smooth and sparsely punctured anteriorly, with a faint medial, longitudinal impression on front and sparsely pilose. Prothorax about a sixth longer than broad, base lobed at middle and sinuate each side, apex broadly arcuate and overhanging, disk irregularly punctured, more closely and deeply so in front and with short, reclinate hair arising from the punctures and a few, long erect hairs widely scattered about, and broadly and feebly impressed at middle. Scutellum semicircular, densely punctured, rugose and concave. Elytra moderately convex, with pronounced though well rounded humeri, sides almost parallel and disk somewhat dull as the result of the dense punctuation and fine rugoseness. Beneath somewhat shining, rather closely punctured anteriorly and sparsely behind. Legs with apices of tibiae beneath and undersurfaces of the tarsal segments from 1-4 densely clothed with short, silky, orange pile. Length 20 mm (with head flexed), breadth 6.5 mm.

Holotype (No. 4682 Mus. C. A. S. Ent.), a unique from Palm Cañon, Angel de la Guardia Is., Gulf of California, collected May 3, 1921, by J. C. Chamberlin, from beneath bark.

This insect is one of our largest clerids and like nothing else in our fauna.

Enoclerus inyoensis, new species.

Small, black, with fulvous tibiae, antennae in great part and palpi rufous, and the elytra varicolored, the color pattern being as follows: the anterior half a reddish orange except for an hour-glass-shaped, sutural, black marking, broadest in front about the scutellum and a blackish line along the lateral margin in front of the median gray bar; the posterior portion densely clothed with gray pile upon a light background except for a broad, black transverse bar at the posterior third which bisects the gray patch, which may or may not be broken at the suture, and which has the pile covering it short, closely appressed and unicolorous with it. Head with front rather finely, closely punctured at sides, with a smooth, blunt ridge at center, and covered with long gray pile. Prothorax cuneate, narrowed behind, with a narrow transverse impression near base and a shallow, broader impression somewhat back of the apex, the surface finely, rather closely punctured and with gray pile at base, sides and to a slight degree in the center, elsewhere with long, black hair which extends somewhat onto the head. Elytra rather finely, closely punctured, finely rugose, and provided with scattered, erect, black setae in addition to the pubescence mentioned before. Beneath rather shining, sparsely, finely punctured and with short, scattered gray pile. Length 5-6 mm., breadth 1.75-2.25 mm.

Holotype (No. 4683 Mus. C. A. S. Ent.) and three *paratypes* from the Panamint Mts., Inyo Co., CALIFORNIA, collected as follows: three including type, May 29, 1937, the fourth June 18, 1937, and two by D. Little, and one each by J. W. Johnson and myself. All were beaten from pinyon pine, *Pinus monophylla* Voss.

This attractive little clerid is of about the same size as *lecontei* (*nigriventris*) (Lec.) and *humeralis* Schf., and resembles them also in having the elytra marked with a median transverse gray band and gray apex. It is less narrow and elongate than either, has a large reddish orange humeral patch, lacking in *lecontei* and much more extensive than in *humeralis,* has the gray, median bar broad and evenly arcuate, whereas it is narrow and zig-zag in *lecontei* and much vaguer in *humeralis,* and the black bar sharply defined with even margins while it has irregular boundaries in *lecontei* and is but poorly defined in *humeralis*. In addition the tibiae are fulvous or rufus in *inyoensis* and black in the other species.

Family Pyrochroidae.

Ischalia (Eupleurida) californica, new species.

Orange yellow except for the antennal segments 3-9 which are black and a large black, median elytral vitta which extends from near the base to near the apex, being about one half the width of the disk in the basal two thirds and expanded apically in the form of a transverse bar clear to the lateral margins. Head flattened in front with a small tubercle between the anterior margins of the eyes. Prothorax about one fourth broader than long, sides carinate and feebly arcuate posteriorly, more evidently rounded and convergent in front, hind angles slightly projecting posteriorly; disk bigibbous in front, with a pronounced median carina behind which extends posteriorly beyond basal border, with large transverse impressions on either side of carina and a finely pubescent surface. Scutellum tubercular. Elytra over twice as long as broad, with the sutural and lateral margins carinate as in *costata* and *vancouverensis* but with the lateral discal carinae broadly expanded throughout their course, the disk between finely, densley punctured inwardly towards suture and more coarsely and distantly punctured outwardly towards lateral carinae. Beneath unicolored orange and finely punctured and pubescent as in the other American species. Length 5-6.5 mm., breadth 2-2.5 mm.

Holotype (No. 4684 Mus. C. A. S. Ent.) and numerous designated *paratypes* from a large series of specimens collected near Weott, Humboldt Co., California, July 13, 1929. I have also collected it near Arcata, Humboldt, Co., Calif.

This species I have been considering for some time as but a subspecies of *vancouverensis* but a more careful study has shown me that it is quite distinct. It differs from *vancouverensis* in the color pattern, in having the posterior prothoracic angles not divergent as they are in the latter, in the type of punctuation of the disk of the elytra and in the uniformly broad lateral carinae of the elytra. It has the antennal segments 3-9 a sooty black whereas they are merely fuscous or piceous in *vancouverenis;* the discal black markings of the elytra not expanded until the posterior third, then reaching fully to the lateral margins whereas in the other the expansion is from the middle to near the apex and only reaches the lateral carinae at the sides; and the abdomen is orange in *californica* while black in *vancouverensis.* In the latter the discal elytral punctuation between the lateral carinae is uniformly coarse and somewhat reticulate while quite fine and dense towards the suture and coarser near the lateral carinae in *californica.* The lateral carinae in *californica* are uniformly wide until near their apices, in *vancouverensis* and also in *costata* they are considerably narrower as well as more depressed from about the middle.

In a recent paper Dr. Blair[1] has resurrected *Euplerida* Le Conte, for the American species chiefly on account of their being wingless and lacking a small supplementary humeral carina which is evident in all known Old World species. I prefer, however, to consider *Eupleurida* as but a subgenus of *Ischalia,* not deeming the divergent characters of sufficient importance, especially when one considers the very numerous points of resemblance, also the fact that one oriental species, the Japanese, *I. patagiata* Lewis, has the wings incompletely developed. I have always found our two Pacific Coast species about fungous growth on old decaying logs. At one time I split open a small hollow log of tanbark oak, *Lithocarpus densiflora* (H. and A.), and found the entire cavity lined with white mycelium upon which numerous larvae and adults of *californica* were feeding.

Key for the separation of the American species of Ischalia

1. Head black, elytra black except for median portion of lateral carinae, middle part of side margin and apices which are yellow; lateral carinae gradually narrowed from base to apex;
Alleghany Mts. .... *costa*
Head orange 2

2. Abdomen black and elytra with broad black median vitta extending from base of elytra to middle where suddenly dilated to lateral carinae; lateral carinae of elytra narrowed from about the middle to apex; West Br.

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[1] Notes on the Colepoterous Genus *Ischalia* Pascoe, ect., by K. G. Blair, Ent. Mo. Mag., 3d Ser., Vol. VI (1920), pp. 133-135.

Col., West Wash. .... *vancouverensis*

Abdomen orange, the broad black elytral vitta extending from base to posterior third where suddenly dilated to lateral margins; lateral carinae of equal breadth from base to posterior third, then narrower; Humbolt Co., Calif. .... *californica*

FAMILY CHRYSOMELIDAE.

GLYPTOSCELIS ILLUSTRIS **aridis** new subspecies.

Somewhat similar to the typical *illustris* but differing by being proportionally shorter and broader and much more densley pilose, hence less brilliant. In typical *illustris* the proportions are: for the prothorax, length .3 to breadth .35; and for the elytra, length .75 to breadth .45; while in *aridis*, the proportions are: for the prothorax, length .27 to breadth .37; and for the elytra, length .7 to breadth .5. The anterior margin of *illustris* as seen from the side is much more oblique than in *aridis;* the white pile in *illustris* is condensed along sides of both prothorax and elytra and along elytral suture and in more or less vague, interrupted vittae on elytral disk with a larger patch at sides near the middle, while in *aridis* it is denser and more uniformly disposed; and the sparse golden brown hairs of *illustris* are scattered over the more or less denuded coppery surface of both pronotum and elytra while the light brown pile of *aridis* is most evident near the apex of the pronotum and about the humeri and posteriorly at the sides of the elytra. The impression about the scutellum also appears to be deeper in *illustris* than in *aridis*.

Holotype male, *allotype* female (Nos. 4685-4686, Mus. C.A.S. and five paratypes, the holotype, allotype and one paratype collected June 15, 1937, on the Westgard Pass Plateau, Inyo Mts., Inyo Co., CALIFORNIA, the first two by myself, the third which is now in the collection of B. E. White by one of my students; two other specimens collected May 27, 1937, by myself and June 7, 1937, by L. D. Phillips from the same locality and the remaining two specimens collected by Albert Koebele, in May 1891, in the Argus Mts. of Inyo Co., Calif. There are no doubt several other Argus Mt. specimens collected by Albert Koebele in the U. S. National Museum Collection. All the Inyo Mt. specimens and presumably also the Argus Mt. specimens were beaten from pinyon pine, *Pinus monophylla* Voss.

The typical *illustrus* of the Sierra Nevada Mts. is generally to be found on the ponderosa pine, *Pinus ponderosa* Lawson.

This interesting subspecies of the desert ranges of southeastern California when placed near typical specimens of *illustris* stands out very distinctly because of its greater piloseness, in fact looks very much like some of the other and more uniformly pilose species. Other species of the genus *Glyptoscelis* which, by the way, has been recently reviewed[2], that are to be found in its territory are *sequoiae* Blasid. on juniper and in Owens Valley, *alternata* Cr. on a species of wild vetch, *Glycyrrhiza lepidota* (Nutt.) and on other annuals.

An Improved Method of Bleaching Insect Specimens

By Bryant E. Rees, Stanford University, California.

Various methods of bleaching melanic insect specimens for morphological study have been suggested, but all of them have the defect of requiring an excessive lapse of time between the beginning and end of the process. Soaking in Eau de Labarraque (hypochlorite of soda) or in Eau de Javelle (hypochlorite of potash), or boiling in hydrogen peroxide are some of the methods that have been advocated. An improved method is described by Blackwelder in his paper on the Morphology of the Coleopterous Family Staphylinidae (Smithsonian Miscellaneous Collections, Vol. 94, No. 13, 1936.) He employed the procedure of boiling the insects for a few minutes in KOH and then placing them in a 3% solution of hydrogen peroxide to which has been added a small amount of ammonia (about one drop per cc. of peroxide). By this method two to six hours are required to bleach dark sclerites and the treatment has the great advantage of leaving the edges and the sutures darker than the rest.

This method as described by Blackwelder gives excellent results, but the time involved is still excessive; and so, beginning

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[2] A study of the Genus *Glyptoscelis* Le Conte in America North of Mexico, by N. L. H. Krauss, Univ. Calif. Publ. in Entom., Vol. 7, No. 2, pp. 21-39, 9 fig. (1937).